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# MEAN WELL

## SWITCHING POWER SUPPLY

**ISO-9001 CERTIFIED MANUFACTURER**

## QP-100 SERIES

**Jameco Part Number 213612 (QP-100F)**

.LOW COST, HIGH RELIABILITY

.105°C OUTPUT CAPACITOR

.INTERNATIONAL AC INPUT RANGE

.HIGH EFFICIENCY, LOW WORKING TEMPERATURE

.SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT

.SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED

.CH4:±POLARITY IS SELECTABLE

| MODEL / SPECIFICATION | QP-100-3A | | | | QP-100-3B | | | | QP-100-3C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CH1 | CH2 | CH3 | CH4 | CH1 | CH2 | CH3 | CH4 | CH1 | CH2 | CH3 | CH4 |
| DC OUTPUT VOLTAGE | 5V | 3.3V | 12V | -5V | 5V | 3.3V | 12V | -12V | 5V | 3.3V | 15V | -15V |
| OUTPUT V. TOLERANCE | ±3% | ±3% | ±6% | ±5% | ±3% | ±3% | ±6% | ±5% | ±3% | ±3% | +8, -6% | ±5% |
| OUTPUT RATED CURRENT | 8A | 8A | 2.5A | 0.6A | 8A | 8A | 2.2A | 0.6A | 8A | 8A | 1.7A | 0.6A |
| OUTPUT CURRENT RANGE | 2-10A | 0-10A | 0.3-3A | 0-1A | 2-10A | 0-10A | 0.3-3A | 0-1A | 2-10A | 0-10A | 0.3-2A | 0-1A |
| RIPPLE & NOISE (p-p) | 100mV | 100mV | 150mV | 150mV | 100mV | 100mV | 150mV | 150mV | 100mV | 100mV | 150mV | 150mV |
| LINE REGULATION | ±1% | ±1% | ±2% | ±1% | ±1% | ±1% | ±2% | ±1% | ±1% | ±1% | ±2% | ±1% |
| LOAD REGULATION | ±2% | ±2% | ±6% | ±2% | ±2% | ±2% | ±6% | ±2% | ±2% | ±2% | ±6% | ±2% |
| MAX. OUTPUT POWER | 99.4W | | | | 100W | | | | 100.9W | | | |
| EFFICIENCY | 74% | | | | 74% | | | | 75% | | | |
| DC VOLTAGE ADJ. | CH1,2:+10,-5% | | | | | | | | | | | |
| INPUT VOLTAGE RANGE | 90~264VAC 47~63Hz; 120~370VDC | | | | | | | | | | | |
| AC CURRENT | 1.5A/115V 0.75A/230V | | | | | | | | | | | |
| INRUSH CURRENT | COLD START<=40A/230V | | | | | | | | | | | |
| LEAKAGE CURRENT | <3.5mA/240VAC | | | | | | | | | | | |
| OVERLOAD PROTECTION | 105%~150% RESET:AUTO RECOVERY | | | | | | | | | | | |
| OVER VOLTAGE PROTECTION | CH1:5.75~6.75V CH2:3.8~4.4V TYPE:SHUTDOWN RESET:RE POWER ON | | | | | | | | | | | |
| OVER TEMP.PROTECTION(OPTION) | 95°C±5°C TSW1 TYPE:SHUTDOWN<br>RESET:AUTO RECOVERY | | | | | | | | | | | |
| TEMP. COEFFICIENT | ±0.03% / °C (0~50°C) | | | | | | | | | | | |
| SETUP, RISE, HOLD UP TIME | 800ms, 50ms, 16ms / 115, 230VAC | | | | | | | | | | | |
| POWER FACTOR | PF>0.95/230VAC, PF>0.98/115VAC | | | | | | | | | | | |
| VIBRATION | 10~500Hz, 2G 10min./1cycle, PERIOD FOR 60min. EACH AXES | | | | | | | | | | | |
| WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC | | | | | | | | | | | |
| ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:500VDC / 100M Ohms | | | | | | | | | | | |
| WORKING TEMP., HUMIDITY | -10°C~+60°C(REFER TO OUTPUT DERATING CURVE), 20%~90% RH | | | | | | | | | | | |
| STORAGE TEMP., HUMIDITY | -20°C~+85°C, 10%~95% RH | | | | | | | | | | | |
| DIMENSION | 199*99*50mm (L*W*H) CASE:916A | | | | | | | | | | | |
| WEIGHT | 730gs | | | | | | | | | | | |
| SAFETY STANDARDS | UL1950, TUV EN60950 APPROVED | | | | | | | | | | | |
| EMC STANDARDS | EN55022 CLASS B, EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-3-2,-3, EN55024 VERIFICATION | | | | | | | | | | | |

NOTE :
1. ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
2. TOLERANCE GINCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
3. RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.
4. LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
5. LOAD REGULATION IS MEASURED FROM 20% TO 100% RATED LOAD, AND OTHER OUTPUT AT 60% RATED LOAD.
6. EACH OUTPUT PROVIDE UP TO MAXIMUM CURRENT, BUT TOTAL LOAD CAN NOT EXCEED MAX. OUTPUT POWER.

2002-07-11

NEXT ( MECHANICAL INFO )

# MEAN WELL

## SWITCHING POWER SUPPLY

**ISO-9001 CERTIFIED MANUFACTURER**

# QP-100 SERIES

.LOW COST, HIGH RELIABILITY
.105°C OUTPUT CAPACITOR
.INTERNATIONAL AC INPUT RANGE
.HIGH EFFICIENCY, LOW WORKING TEMPERATURE
.SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT
.SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED
.CH4:±POLARITY IS SELECTABLE

| MODEL / SPECIFICATION | QP-100-3D | | | | QP-100D | | | | QP-100F | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CH1 | CH2 | CH3 | CH4 | CH1 | CH2 | CH3 | CH4 | CH1 | CH2 | CH3 | CH4 |
| DC OUTPUT VOLTAGE | 5V | 3.3V | 24V | -12V | 5V | 12V | 24V | -12V | 5V | 15V | 24V | -15V |
| OUTPUT V. TOLERANCE | ±3% | ±3% | ±6% | ±5% | ±3% | ±3% | ±6% | ±5% | ±3% | ±3% | ±6% | ±5% |
| OUTPUT RATED CURRENT | 8A | 8A | 1.3A | 0.6A | 8A | 2.4A | 1A | 0.6A | 8A | 2A | 1A | 0.6A |
| OUTPUT CURRENT RANGE | 2-10A | 0-10A | 0.3-2A | 0-1A | 2-10A | 0-3A | 0.3-2A | 0-1A | 2-10A | 0-3A | 0.3-2A | 0-1A |
| RIPPLE & NOISE (p-p) | 100mV | 100mV | 150mV | 150mV | 120mV | 150mV | 200mV | 150mV | 120mV | 180mV | 200mV | 150mV |
| LINE REGULATION | ±1% | ±1% | ±2% | ±1% | ±1% | ±1% | ±2% | ±1% | ±1% | ±1% | ±2% | ±1% |
| LOAD REGULATION | ±2% | ±2% | ±6% | ±2% | ±2% | ±2% | ±6% | ±2% | ±2% | ±2% | ±6% | ±2% |
| MAX. OUTPUT POWER | 100.6W | | | | 100W | | | | 103W | | | |
| EFFICIENCY | 75% | | | | 78% | | | | 78% | | | |
| DC VOLTAGE ADJ. | CH1,2:+10,-5% | | | | | | | | | | | |
| INPUT VOLTAGE RANGE | 90~264VAC 47~63Hz; 120~370VDC | | | | | | | | | | | |
| AC CURRENT | 1.5A/115V 0.75A/230V | | | | | | | | | | | |
| INRUSH CURRENT | COLD START<=40A/230V | | | | | | | | | | | |
| LEAKAGE CURRENT | <3.5mA/240VAC | | | | | | | | | | | |
| OVERLOAD PROTECTION | 105%~150% RESET:AUTO RECOVERY | | | | | | | | | | | |
| OVER VOLTAGE PROTECTION | CH1:5.75~6.75V CH2:3.8~4.4V | | | | CH1:5.75~6.75V CH2:13.8~16.2V | | | | CH1:5.75~6.75V CH2:17.25~20.25V | | | |
| | TYPE:SHUTDOWN RESET:RE POWER ON | | | | | | | | | | | |
| OVER TEMP.PROTECTION(OPTION) | 95°C±5°C TSW1 TYPE:SHUTDOWN RESET:AUTO RECOVERY | | | | | | | | | | | |
| TEMP. COEFFICIENT | ±0.03% / °C (0~50°C) | | | | | | | | | | | |
| SETUP, RISE, HOLD UP TIME | 800ms, 50ms, 16ms / 115,230VAC | | | | | | | | | | | |
| POWER FACTOR | PF>0.95/230VAC, PF>0.98/115VAC | | | | | | | | | | | |
| VIBRATION | 10~500Hz, 2G 10min./1cycle, PERIOD FOR 60min. EACH AXES | | | | | | | | | | | |
| WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC | | | | | | | | | | | |
| ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:500VDC / 100M Ohms | | | | | | | | | | | |
| WORKING TEMP., HUMIDITY | -10°C~+60°C(REFER TO OUTPUT DERATING CURVE), 20%~90% RH | | | | | | | | | | | |
| STORAGE TEMP., HUMIDITY | -20°C~+85°C, 10%~95% RH | | | | | | | | | | | |
| DIMENSION | 199*99*50mm (L*W*H) CASE:916A | | | | | | | | | | | |
| WEIGHT | 730gs | | | | | | | | | | | |
| SAFETY STANDARDS | UL1950, TUV EN60950 APPROVED | | | | | | | | | | | |
| EMC STANDARDS | EN55022 CLASS B, EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-3-2,-3, EN55024 VERIFICATION | | | | | | | | | | | |

NOTE :
1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
2.TOLERANCE GINCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
3.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.
4.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
5.LOAD REGULATION IS MEASURED FROM 20% TO 100% RATED LOAD, AND OTHER OUTPUT AT 60% RATED LOAD.
6.EACH OUTPUT PROVIDE UP TO MAXIMUM CURRENT, BUT TOTAL LOAD CAN NOT EXCEED MAX. OUTPUT POWER.

2002-07-11

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## SWITCHING POWER SUPPLY

**ISO-9001 CERTIFIED MANUFACTURER**

## QP-100 SERIES

.BUILD-IN PFC FUNCTION

.UNIVERSAL AC INPUT-FULL RANGE

.SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED

.OVER TEMP.PROTECTION(OPTION)

.SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT

| MODEL / SPECIFICATION | QP-100B | | | | QP-100C | | | |
|---|---|---|---|---|---|---|---|---|
| | CH1 | CH2 | CH3 | CH4 | CH1 | CH2 | CH3 | CH4 |
| DC OUTPUT VOLTAGE | 5V | 12V | -12V | -5V | 5V | 15V | -15V | -5V |
| OUTPUT V. TOLERANCE | ±3% | ±6% | +10,-6% | ±5% | ±3% | +6,-10% | ±8% | ±5% |
| OUTPUT RATED CURRENT | 10A | 3A | 1A | 0.6A | 10A | 2.2A | 1A | 0.6A |
| OUTPUT CURRENT RANGE | 2-10A | 0.3-4A | 0.15-1A | 0-1A | 2-10A | 0.3-3A | 0.15-1A | 0-1A |
| RIPPLE & NOISE (Vp-p) | 100m | 150m | 150m | 100m | 100m | 150m | 150m | 100m |
| LINE REGULATION | ±1% | ±2% | ±2% | ±1% | ±1% | ±2% | ±2% | ±1% |
| LOAD REGULATION | ±2% | ±6% | ±6% | ±2% | ±2% | ±6% | ±6% | ±2% |
| DC OUTPUT MAX. POWER | 101W | | | | 101W | | | |
| EFFICIENCY | 77% | | | | 77% | | | |
| DC VOLTAGE ADJ. | CH1:+10,-5% | | | | | | | |
| INPUT VOLTAGE RANGE | 90~264VAC 47~63Hz; 127~370VDC | | | | | | | |
| AC CURRENT | 2A/115V 1A/230V | | | | | | | |
| INRUSH CURRENT | COLD START 40A | | | | | | | |
| LEAKAGE CURRENT | <3.5mA/240VAC | | | | | | | |
| OVERLOAD PROTECTION | 105%~135% RESET:AUTO RECOVERY | | | | | | | |
| OVER VOLTAGE PROTECTION | CH1:5.75~6.75V | | | | | | | |
| OVER TEMP.PROTECTION(OPTION) | 95°C±5°C TSW1 TYPE:SHUTDOWN<br>RESET:AUTO RECOVERY | | | | | | | |
| TEMP. COEFFICIENT | ±0.03% / ◦C (0~50◦C) | | | | | | | |
| SETUP, RISE, HOLD UP TIME | 800ms, 50ms, 16ms | | | | | | | |
| POWER FACTOR | PF>0.95/230VAC, PF>0.98/115VAC | | | | | | | |
| VIBRATION | 10~500Hz, 2G 10min./1cycle, PERIOD FOR 60min. EACH AXES | | | | | | | |
| WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC | | | | | | | |
| ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:500VDC / 50M Ohms | | | | | | | |
| WORKING TEMP., HUMIDITY | -10◦C~+60◦C(REFER TO OUTPUT DERATING CURVE), 20%~90% RH | | | | | | | |
| STORAGE TEMP., HUMIDITY | -20◦C~+85◦C, 10%~95% RH | | | | | | | |
| DIMENSION | 199*90*50mm (L*W*H) CASE:916A | | | | | | | |
| WEIGHT | 1.1Kgs | | | | | | | |
| SAFETY STANDARDS | MEET UL1950, TUV EN60950 | | | | | | | |
| EMC STANDARDS | MEET EN55022 CLASS B, EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-3-2,-3, EN55024 | | | | | | | |

NOTE :

1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.

2.TOLERANCE : INCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.

3.OUTPUT PROVIDE UP TO MAXIMUM CURRENT, BUT TOTAL OUTPUT CAN NOT EXCEED MAX. OUTPUT MAXIMUM OUTPUT POWER.

4.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.

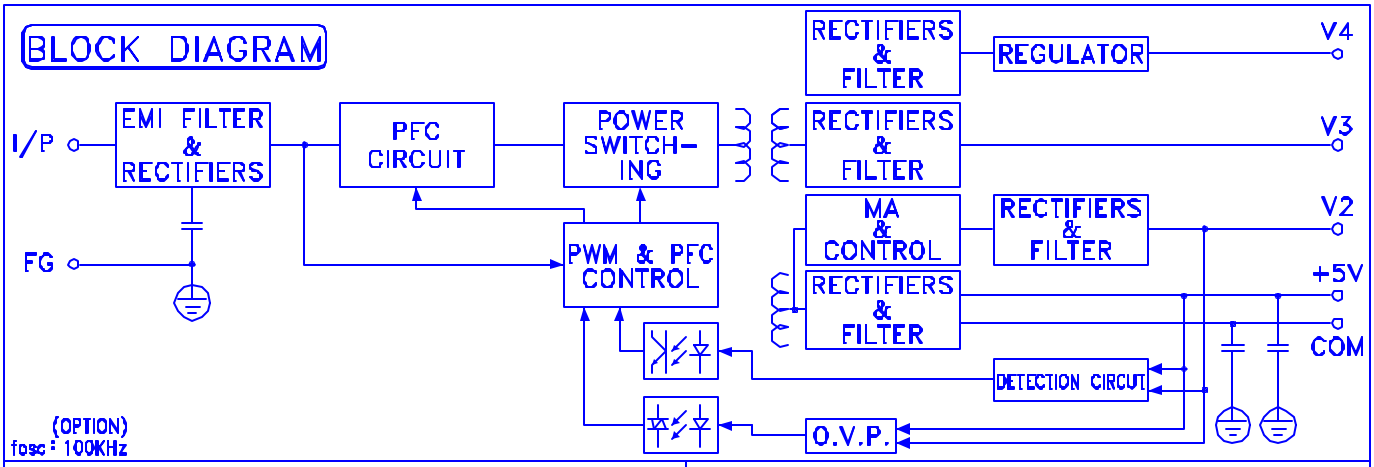
5.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.

6.LOAD REGULATION IS MEASURED FROM 20% TO 100% RATED LOAD, AND OTHER OUTPUT AT 60% RATED LOAD.

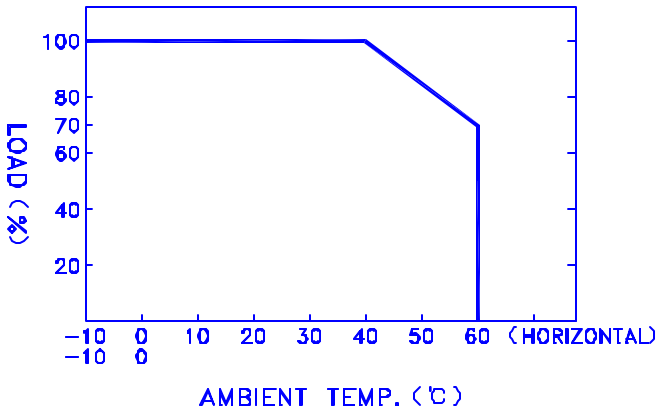
7.EACH OUTPUT PROVIDE UP TO MAXIMUM CURRENT, BUT TOTAL LOAD CAN NOT EXCEED MAX. OUTPUT POWER.

2002-08-30

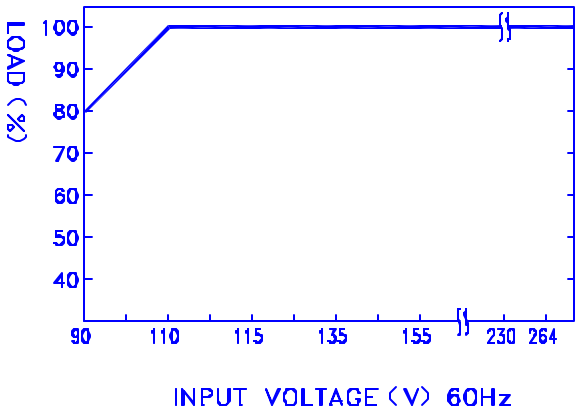
## BLOCK DIAGRAM




## OUTPUT DERATING VS Ta

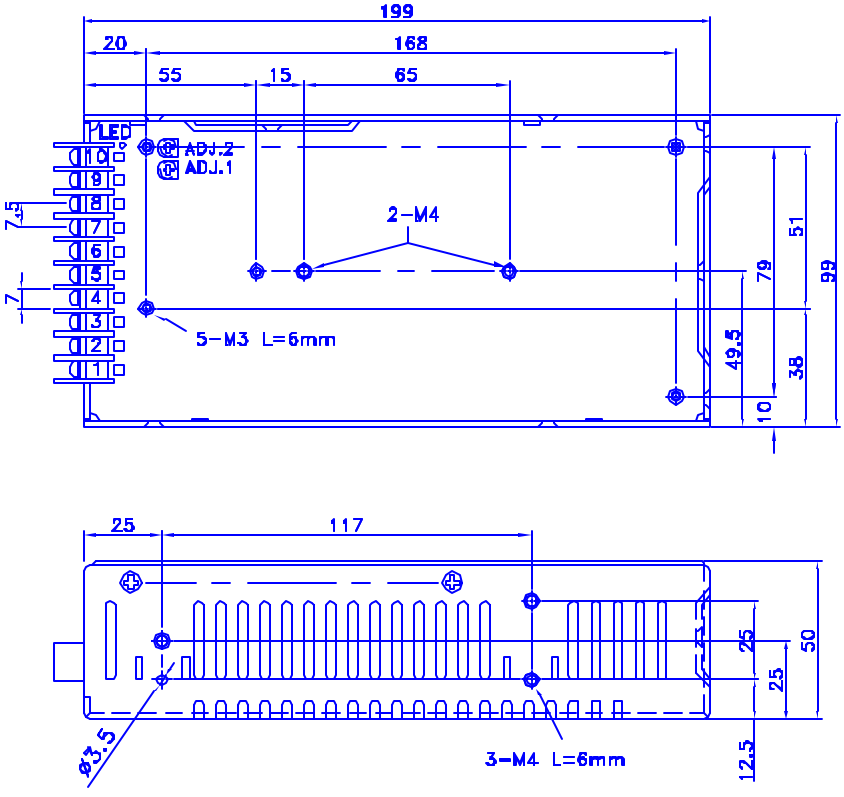



## OUTPUT DERATING VS INPUT VOLTAGE

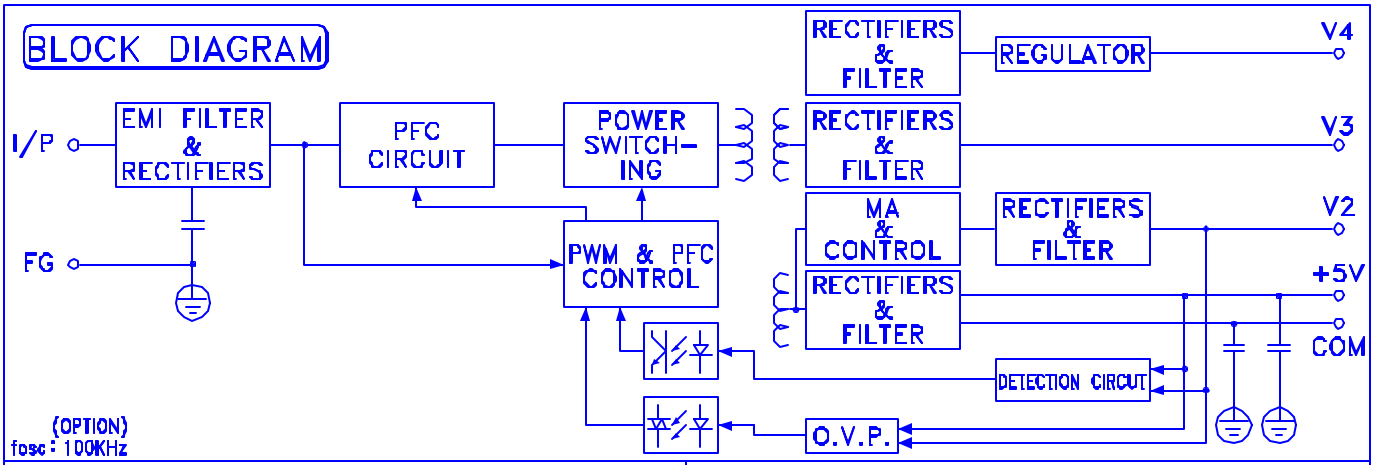



## DIMENSION (mm)

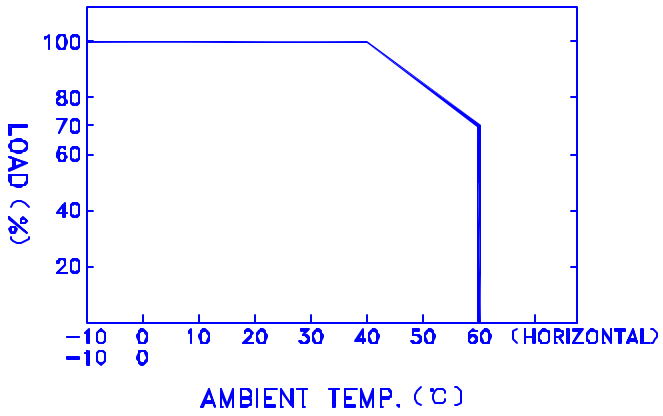
- CASE : 916A
- TERMINAL PIN NO. ASSIGNMENT
  - PIN 1,2 : AC INPUT
  - PIN 3 : FG ⏚
  - PIN 4 : DC OUTPUT V4
  - PIN 5 : DC OUTPUT V3
  - PIN 6,7 : DC OUTPUT V1
  - PIN 8,9 : DC OUTPUT COM
  - PIN 10 : DC OUTPUT V2



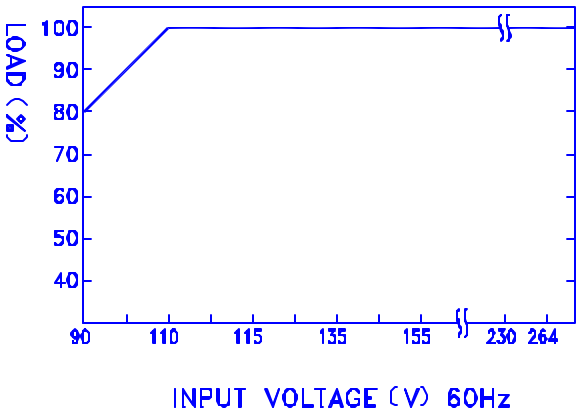
## BLOCK DIAGRAM




## OUTPUT DERATING VS Ta




## OUTPUT DERATING VS INPUT VOLTAGE




## DIMENSION (mm)

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  - PIN 1,2 : AC INPUT
  - PIN 3 : FG ⏚
  - PIN 4 : DC OUTPUT V4
  - PIN 5 : DC OUTPUT V3
  - PIN 6,7 : DC OUTPUT V1
  - PIN 8,9 : DC OUTPUT COM
  - PIN 10 : DC OUTPUT V2